



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Kathleen Clarke
Executive Director

Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

July 11, 2002

TO: Minerals File

FROM: D. Wayne Hedberg, Permit Supervisor 

RE: Meeting to Discuss Resolution of Division Order and Permit Transfer Requirements,
U.S. Magnesium LLC, Rowley/Stansbury Basin Project, M/045/008, Tooele County,
Utah

Purpose of Meeting: Discuss status of operator's response & compliance with Division Order.

Meeting location/time: DOGM Offices (1:30 – 2:45 p.m.)

Participants: Tom Tripp, Walt Barlow, Dan Tuttle & Mike Malmquist (counsel) – U.S.
Magnesium; Doug Jensen & Wayne Hedberg - DOGM

On July 9, 2002, at 1:30 p.m., a meeting was held at the Division offices with U.S. Magnesium representatives to discuss the status of their response to the Division's Order, dated May 31, 2002. The meeting was scheduled based upon a request by the operator. Prior to the meeting, Wayne and Doug reviewed the operator's June 12th and July 2nd responses to the Division Order and prepared a draft list of technical comments and general questions (revised copy attached). We discussed these draft comments with the operator at the beginning of the meeting. Some of the questions were answered to the Division's satisfaction during the meeting, while other questions will require supplemental information from the operator in order to resolve the remaining questions and concerns.

We discussed our mutual desire to work through and resolve any/all of our technical concerns regarding specific reclamation plan details for the Rowley Project well in advance of the next 5-year review of the bond estimate. U.S. Magnesium representatives agreed to work together to achieve this goal.

Mr. Malmquist indicated that a stipulated order from the Bankruptcy Court gave the new operator (U.S. Magnesium LLC) 90-days from the date of the closing to operate the Rowley project facilities, before they must post the \$349,866 replacement reclamation surety with the State. I asked him to provide us with a copy of that order, which he agreed to do. Mr. Tuttle said that a Letter of Credit would probably be the form of reclamation surety submitted by the new operator.

100404

Page 2
Meeting
M/045/008
July 11, 2002

Mr. Malmquist expressed a concern with the current LMO transfer form information requirements, regarding the difficulty of providing an accurate description of the bonded disturbed acreage and corresponding detailed legal description for this large scale project. We acknowledged this difficulty and agreed that an abbreviated legal description that referenced detailed disturbed area maps with clearly defined township, range and sections would probably satisfy the transfer requirements. I requested that the operator provide us with draft copies of all the appropriate transfer and bonding forms for our assessment before they are finalized and signed.

We discussed the need to schedule an onsite inspection to assess the status of the reclamation and vegetation success on the areas of historic oolitic sand mining and borrow areas for dike and road fill material. We agreed to look at our schedules and contact the operator within the next 7 – 10 days to set up this inspection. In the meantime, the operator agreed to work on updating the existing disturbed area maps for these areas so they would be available for use during the inspection. The operator committed to having these maps revised within two weeks. Following the onsite inspection, a schedule will be established to complete the remaining reclamation and revegetation work. Mr. Tripp indicated that they presently have construction equipment available which would allow this work to be performed expeditiously. Mr. Tripp said that other map revisions and clarifications would be completed by mid-August (if not sooner).

We also discussed the need to provide an updated, detailed written description to confirm and clarify the ultimate reclamation plan commitments that U.S. Magnesium will follow. This description would coincide and tie directly to the operator's latest submittals and any subsequent modifications or necessary clarifications to those documents.

The meeting concluded at 2:45 p.m. with the understanding that the permit transfer, reclamation contract and replacement surety, could not be formally approved until the permitting requirements under the Division Order were appropriately resolved.

jb

Attachments: revised review comments/notes & Magcorp's June 12th and July 2nd submittals

cc: Tom Tripp, U.S. Magnesium LLC

Mary Ann Wright, Associate Director

O:\M045-Tooele\M0450008-rowley-stansbury\final\usmagnesium-mtg.doc

100405

U.S. Magnesium LLC

Preliminary Notes/comments and observations - Magcorp's June 13, 2002 & July 2, 2002 response to Division Order (revised July 11, 2002)

- 1) Clarification - Disagree with general statement that total processing plant area is exempt from our jurisdiction (OGM's draft proposed millsite policy may have impact). Smelter and refinery are exempt by statute and rule. Division agreed not to consider including plant site for the next 5-yr bond escalation period.

6/12/02 – Principles of MagCorp Estimate:

- 1 & 2) Question the statement that all areas of oolitic sand mining activity have been adequately reclaimed and revegetated. Operator and Division need to establish a schedule to complete remaining work. Operator and OGM need to schedule inspection timeframe before this fall to assess the oolitic sand mining and borrow areas to determine supplemental reclamation and revegetation requirements. Remaining reclamation should begin as soon as practical and reseeding work should be done in the fall.
- 3) Agree in principal, but need to establish how many breeches and where they will be placed. Also, what constitutes a breach?
- 4) Agree in principal, but need to confirm State usage. North Dike road is probably okay to remain, as it is within GSL high water meander line.
- 5) Agree in principal, for it to remain.
- 6) Internal dikes and levees behind and internal to the dike structure south of the "2 ponds" system may not be eroded by normal wave action unless/until water level comes up again. Leaving North dike structure intact will likely preclude significant wave erosion of internal dikes and levees. How many more breaches are anticipated and where will they be placed? Show proposed locations on a map.

Closure and removal of the 100 million gal Mg chloride storage pond (Bullring Reservoir) also needs to be addressed.

- 7) Agree, but brine pipeline must be permanently capped or plugged (concrete?) from both ends. Other pipelines with a continued post-mine use may not need to be similarly plugged.
- 8) Is the "West Canal" the same as the "Storm Drainage Channel"? Please explain further the concern related to canal destruction prior to salt floor dissipation.

Operator is currently pumping impounded storm water from Skull Valley into the canal. How will this canal become "free-flowing" with natural drainage after operations cease? Is there another alternative to convey the natural drainage through the pond system and into the GSL basin without using this canal?

- 9) Need clarification of which canal this is? Is it shown on the map? Potential boat launching site is questionable justification to leave this structure. Provide documentation that demonstrates the canal won't allow water to flow behind "2 ponds" dike? What are plans for the "existing brine canal"?

Other Concerns:

- 1) Require "expanded detail map of the facilities and structures at "2 ponds" pump station area. Itemized list of facilities and standard dimensions to accompany enlarged detail map would suffice.
- 2) Bond Estimate "Clarifications"
 - A.1. need "detail" drawings of structures and equipment to be removed and a surface facilities location map of where these facilities are found.
 - A.3. Identify the specific 11.3 acres of roads that are to be reclaimed (on a reference map).
 - B.1.a. Where is the "fresh water canal" that is proposed for reclamation? Please label as such on the map.
 - B.1.b. Where is the P11 canal? Show location and label on the map. Is P11 the "existing brine canal"?
 - B.1.d, e, f, & g. Where are these breaches proposed? Show proposed locations on the map.
 - B.h. Where is this canal? Show location and label on the map.
 - B.i. & j. Where are these features? Show location and label on the map.

Comments on Magcorp's July 2, 2002 response:

- 1) Drawing RD-904-237 and 238 (show acreage calculations for all oolitic sands excavations/disturbances).
- 2) Maps should also identify the "borrow areas" (and acreages) used for dike and road construction/repair as well (1" = 200 ft. scale preferred).
- 3) Provide a detailed written description to update and clarify the original reclamation plan commitments that coincides with the latest bond estimate.

RECEIVED

JUN 12 2002

DIVISION OF
OIL, GAS AND MINING

Principles Of the Magcorp Estimate:

June 12, 2002

Tom Tripp

1. Magcorp has ceased oolitic sand mining activities (six years ago). No further activity is expected. The mineral claims have been relinquished. The areas are reclaimed and revegetated with minor exceptions. Rather than unnecessarily including this task as a bonding activity, set a schedule and direct Magcorp to finish the activity.
2. "Borrow Areas" have been inactive for the last 16 years. Div of Oil, Gas, and Mining no longer bond sand and gravel pits. Rather than unnecessarily include this item as a bonding activity, set a schedule and finish the activity.
3. The 1979 reclamation plan says that areas need to be reclaimed to **"past and present probable land uses"**. The Stansbury Basin is likely the finest solar pond facility in the world. The dikes and canals of the facility were constructed at a cost of multiple tens of millions of dollars. It seems inconceivable the "probable present use" would be anything other than solar ponding. The reclamation plan only says, **"levies and dikes will be breached, allowing solar pond area to revert to lake bed."** Consequently the reclamation activities in the solar ponds should be limited to only restoring natural drainage rather than general destruction of the ponds.
4. The State of Utah is currently issuing access permits for brine shrimping operations to use the North Dike (12 miles) of Stansbury Basin solar ponds. To plan the destruction of a program where the State is issuing long term access permits is foolish and unnecessary. Magcorp proposes leaving the existing control structures open to allow free flow of water should a reclamation activity be necessary.
5. The dike structure on the North side of the "2 Ponds" was installed with public money participation in 1987. The dike can serve as a means of protecting roads, wildlife refuges and other facilities. Rather than breach the structure in multiple locations there is currently an adequate drain through the structure that will serve to restore natural drainage, but also rapid closure should the need arise.
6. Removal of various control structure will general allow natural drainage of water through the internal dikes of the solar ponds. Only a few additional breeches would be necessary. The reclamation will come as a result of wave action not from flow through breeches
7. The pipeline for transferring brine to the plant site is buried and doesn't require reclamation.

100408

8. The West Canal including the dikes are necessary for the routine passage run off water from Skull Valley. Destruction of the canal prior to substantial dissipation of salt floors in the solar ponds may cause damage to railroads, roads, and other operations. Such a canal is necessary for the future use of the basin for solar ponding and consequently should be left. (See item 3 above)
9. The ³⁷~~five~~ mile long brine inlet canal located on the West end of the North Dike provides the only reasonable boat launching site on the West side of the Great Salt Lake. It has been used by government agency for various survey purposes. Because of it's location, it can serve as a boat access to a lake surface elevation of about 4196 MSL (allowing three feet of depth) The canal is in the bed of the lake on a mud flat that allows no surface vehicle travel and is bounded by borrow spoils. Between it's original construction and 1992 it filled with sediment and had to be restored. It can be expected to self-reclaim rapidly. It is an unnecessary addition the reclamation estimate.

BOND ESTIMATE, 2002
ROWLEY FACILITY

Operation	Quantity	unit costs	Extended costs
A. CLEAN-UP			
1. Removal of structures & equipment			
a. Shop	3200sq ft	\$3.00	\$9,600.00
b. generator bldg	1	\$1,500.00	\$1,500.00
c. P-10 pump building	1	\$3,000.00	\$3,000.00
d. steel structures @ pump stations	11	\$10,000.00	\$110,000.00
e. metal flumes	2	\$2,400.00	\$4,800.00
f. concrete gates	8	\$1,250.00	\$10,000.00
g. bridges	2	\$1,000.00	\$2,000.00
h. tanks	4	\$1,325.00	\$5,300.00
i. Wooden control gates	2	\$1,250.00	\$2,500.00
subtotal			\$148,700.00
2. Removal of trash			
a. East road	1	\$1,600.00	\$1,600.00
3. Leveling of ancillary facilities, pads, & access roads			
a. roads	11.3 acres	\$2,000.00	\$22,600.00
b. concrete pads at south pump station	86 cu yd	\$100.00	\$9,600.00
c. asphalt pad at south pump station	12000sqft	\$1.00	\$12,000.00
subtotal			\$45,800.00
B. REGRADING & RECONTOURING			
1. Earthwork, including hauling & grading of spoils, waste, & overburdens			
a. fresh water canal D8	200000cu yd	\$0.10	\$20,000.00
b. p-11 canal- D8	84000 cu yd	\$0.10	\$8,400.00
c. remove culvert - north dike	1	\$3,000.00	\$3,000.00
d. breach pond 2W	2	\$500.00	\$1,000.00
e. breach pond 3 center, south dike	2	\$500.00	\$1,000.00
f. breach main road	2	\$750.00	\$1,500.00
g. breach EW dike	1	\$1,000.00	\$1,000.00
h. small canal dike west of EW dike-D4LGP	10000 cu yds	\$0.55	\$5,500.00
i. Intermediate pond gate	1	\$4,000.00	\$4,000.00
j. holding ponds	200000 cuyd	\$0.10	\$20,000.00
subtotal			\$41,400.00
2. Recontouring & Regrading			
a. oolitic sand area, North of plant	no	bond	
3. Spreading of soil & surficial materials			
a. oolitic area	no	bond	
C. STABILIZATION			
1. Soil preparation, scarification, fertilization, etc.			
2. Seeding & planting			
3. Construction of terraces, waterbars, etc	none		
D. LABOR			

BOND ESTIMATE, 2002
ROWLEY FACILITY

1. Supervision	60 days	\$386.00	\$23,160.00	
2. Labor exclusive of bulldozer use				
a. refueler/oiler/lube with truck & supplies	60 days	\$800.00	\$48,000.00	
b. transportation of equipment	10 days	\$600.00	\$6,000.00	
c. mobilization			\$5,000.00	
subtotal			\$82,160.00	
E. SAFETY				
1. Erection of fences, portel covering, etc.				
2. removal or neutralization of explosive or hazardous materials				
F. MONITORING				
1. Continous or periodic monitoring, sampling & testing deemed necessary				
G. OTHER				
1. Bond for life of 5 years			\$318,060.00	
2. Contingency @ 10%			\$31,806.00	
TOTAL			\$349,866.00	

[illegible]

M/045/008

Hand Delivered on July 2, 2002

Lowell P. Braxton, Division Director
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

Re: Rowley/Stansbury Basin Magnesium Operation (M/045/008), Response to
Division Order #2002A

Dear Mr. Braxton:

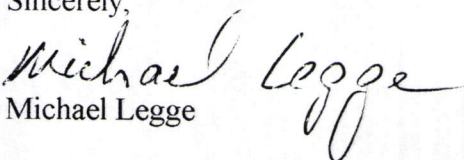
Along with this letter we are delivering to the Utah Division of Oil Gas and Mining ("UDOGM") a set of maps indicating the areas that were disturbed by Magnesium Corporation of America ("Magcorp") (or its predecessors) in connection with the mining of oolitic sands in the vicinity of the above-referenced operation. As you know, the mining of oolitic sand was discontinued several years ago and has been largely reclaimed. The maps are at a scale of 1"=200' and replace the larger scale maps previously provided.

In addition, we have reviewed "Attachment D" and hereby confirm that it accurately describes the Rowley facilities and operations and therefore does not require revision.

With submittal of the enclosed oolitic sand maps and the clarification regarding Attachment D, together with the various maps and information that were submitted to UDOGM by hand during June of 2002 (including the letter and information packet submitted by Magcorp and received and accepted by UDOGM on June 13, 2002, as indicated by your dated signature on same), Magcorp believes it has complied with Division Order #2002.¹

If you have any questions or comments please call Tom Tripp at 532-1522.

Sincerely,


Michael Legge

Enclosure

Cc: T. Tripp
D. Tuttle
L. Brown

RECEIVED

JUL 02 2002

DIVISION OF
OIL, GAS AND MINING

¹ Nothing in this letter or the materials submitted is an admission that the information previously on file with UDOGM was legally or otherwise deficient.

Attachment D

RECEIVED
JUN 27 2002
DIVISION OF OIL, GAS AND MINING

The following is the flow scheme for the MagCorp Stansbury Basin pond system. Included is a description of the South Pumping Station facility.

1. Brine is pumped from the Great Salt Lake by three (3) 50,000gpm diesel driven pumps. The P-0 pump station is located just east of the Rowley plant in the northwest corner of Pond 1 North (1N). Brine continues south through Pond 1N. Alternatively when the elevation of the Great Salt Lake is sufficiently high, a control gate located on the North Dike is opened and Great Salt Lake brine flows into Pond 1N by gravity.
2. At the East-West dike, which separates Pond 1N and Pond 1 South (1S) brine flows south through a cement control gate and enters Pond 1S.
3. The flow continues south through Pond 1S to the P-1 inlet canal that feeds the P-1 pump station. Brine is picked up by two (2) 50,000gpm diesel driven pumps and discharged into the P-1 discharge canal.
4. East along the P-1 discharge canal brine flows into Pond 2 East East (2EE) continuing north and west through Pond 2EE
5. From 2EE brine flows into Pond 2 East West (2EW)
6. Brine is then picked up by three (3) 20,000gpm diesel driven pumps at the P-2 pump station. From the P-2 discharge canal brine flows west into Pond 2 West West (2WW) flowing north and east through 2WW.
7. From 2WW brine flows through a 25' wide earthen gate into Pond 2 West East (2WE) flowing south and east through Pond 2WE.
8. Brine is then picked up by two (2) 20,000gpm diesel driven pumps at the P-3 pump station. The P-3 discharges into the P-3 discharge canal.
9. Brine flows west along the P-3 discharge canal and into Pond 3-west (3W).
10. The brine flows west then east then west and back east through a series of three- (3) diversion dikes. These diversion dikes are constructed of salt that is picked up off the floor of the pond. The brine flows from Pond 3W into the 3W/3E crossover canal.
11. Brine flows east through the 3W/3E canal into Pond 3 East (3E). The brine flows north then south through a series of five (5) salt diversion dikes.

12. The flow enters Pond 3 Center (3C) in the southeast corner of the pond flowing east then east then west then east through a series of four (4) salt diversion dikes.
13. Once the flow reaches the P-6 pump station, a 20,000gpm diesel driven pump there are several options depending on the brine concentration.
 - a- Brine can be pumped to the 100mm gallon "Bullring" reservoir, a 1600' diameter ½" steel sheet piled reservoir. Brine is stored there until needed at the Rowley plant.
 - b- Brine can be pumped to the 2mm-gallon "Horseshoe" reservoir where brine can then be pumped directly to the plant through the 16-mile long brine line by a 1000gpm diesel driven pump at the P-5 pump station.
 - c- Lower concentrated brine can be pumped from the Horseshoe down the brine line to the Intermediate reservoir, a 400mm-gallon earthen storage reservoir by a 5000gpm diesel driven pump at P-5 pump station. This Intermediate brine is used to fill the 3 ponds the following year.

Intermediate brine is returned to the system in early summer. Brine flows from the Intermediate reservoir, a 600-acre earthen-diked reservoir into the P-9 return canal. Flowing south along this canal the brine is picked up by a 20,000gpm diesel driven pump at the P-9 pump station and pumped into the northwest corner of Pond 3W. From there it follows the same flow pattern as already explained (#9, #10, #11, & #12).

Cargill Salt receives feed flows from pond 1N into the P-11 inlet canal. It is picked up at the P-11 pump station by three (3) 25,000gpm diesel driven pumps. It discharges into the P-11 discharge canal that runs south to Pond 11 where Cargill picks it up. The bitterns from the Cargill operation returns to the Pond 1S.